

REMARKS

By the present amendment, claims 1, 5, 10 and 15 have been amended. Claim 2 was previously canceled. No new matter has been added.

Claims 1 and 3-21 remain pending in the application. Reconsideration and allowance of all of the claims are respectfully requested in view of the foregoing amendments and the following remarks.

With Regard to the Rejection of Claim 10 under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claim 10 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner considers the term “preferably” to render the claim indefinite because it is unclear whether the limitation(s) following the term are part of the claimed invention.

In response to the Examiner’s remarks, the Applicant has amended claim 10 to delete the term “preferably”.

In view of this amendment, the Applicant believes that claim 10 is in full compliance with 35 U.S.C. § 112, and the Examiner is requested to withdraw his rejection.

With Regard to the Rejection of Claims 1, 5 and 12 under 35 U.S.C. § 102(b)

The Examiner has rejected claims 1, 5 and 12 under 35 U.S.C. § 102(b) as being anticipated by Miller, U.S. Patent No. 4,708,516. The Applicant believes this rejection has been addressed and overcome by the present amendment.

The Examiner’s attention is directed to the following feature of claim 1 as amended:

a water-permeable multi-layered structure with a superstructure
and a substructure,

The Applicant submits that at least the above feature of claim 1 as amended is not taught by Miller.

Referring to lines 39-45 of column 3 of Miller,

The arrangement comprising the invention includes a one-half to two inch thick surface layer 14. The surface layer 14 is supported by dense-graded aggregate material 16 which, in turn, overlies a layer of open-graded aggregate material 18. The open-graded aggregate material 18 is positioned atop a bottom layer 20 comprising modified dense-graded asphalt concrete.

Referring also to lines 50-57 of column 12 of Miller,

[i]n designing the pavement of the invention, [Miller] has sought to attain an arrangement of structural material that [...] minimizes water conductivity into the underlying subgrade while providing efficient lateral transport of infiltrated surface waters out of the pavement[.]

Referring also to lines 10-24 of column 4 of Miller,

The modified dense-graded asphalt concrete layer 20 is constructed essentially as a conventional dense-graded asphalt concrete layer. [...] In addition, the layer 20 may be placed at a higher compacted density that, in conjunction with the higher percentage of asphalt cement, provides greater stiffness, fatigue life and substantially lower hydraulic conductivity.

Referring also to lines 29-33 of column 14 of Miller,

Finally, by placing the dense-graded asphalt concrete layer 20 having enhanced bitumen content at the bottom of the structural section, a membrane-like barrier to water conductivity is created to limit harmful seepage into the subgrade.

Referring also to Figure 1 of Miller, it is apparent that Miller teaches a pavement surface having a layer 16 of dense-graded aggregate material, and a bottom layer 20 of modified dense-graded asphalt concrete. Both of these materials are understood in the art to be generally impermeable to water. In addition, Miller teaches modifying the bottom layer 20 to provide "substantially lower hydraulic conductivity", and has designed the overall arrangement of structural material to "minimize[] water conductivity" into the underlying subgrade 12 and provide drainage via the lateral transport of surface water. Therefore, Miller does not teach a water-permeable multi-layered structure as claimed.

As such, at least one element of claim 1 as amended is not taught by Miller, and the Examiner is requested to withdraw his rejection of claim 1, and claims 5 and 12 depending therefrom.

With Regard to the Rejection of Claims 1 and 3-21 under 35 U.S.C. § 103(a)

The Examiner has rejected claims 1 and 3-21 under 35 U.S.C. § 103(a) as being unpatentable over Miller. The Applicant believes this rejection has been addressed and overcome by the present amendment.

The Examiner's attention is directed to the following feature of claim 1 as amended:

a water-permeable multi-layered structure

The Examiner's attention is additionally directed to the following feature of claim 15 as amended:

hardening of the layers to form a water-permeable structure.

As discussed above with respect to claims 1, 5 and 12, the Applicant submits that at least the above features of claims 1 and 15 as amended are not taught by Miller.

This deficiency in Miller is not remedied by the Examiner's assertion that

[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the structure thickness in order to suit specific design loads.

The Applicant disagrees with the Examiner's assertion, and submits that a person skilled in the art would not modify the pavement structure of Miller in view of the Examiner's assertion to provide a water-permeable structure as claimed.

Referring also to lines 50-57 of column 12 of Miller,

[i]n designing the pavement of the invention, [Miller] has sought to attain an arrangement of structural material that [...] minimizes water conductivity into the underlying subgrade while providing efficient lateral transport of infiltrated surface waters out of the pavement[.]

Referring also to lines 10-24 of column 4 of Miller,

The modified dense-graded asphalt concrete layer 20 is constructed essentially as a conventional dense-graded asphalt concrete layer. [...] In addition, the layer 20 may be placed at a higher compacted density that, in conjunction with the higher percentage of asphalt cement, provides greater stiffness, fatigue life and substantially lower hydraulic conductivity.

Referring also to lines 29-33 of column 14 of Miller,

Finally, by placing the dense-graded asphalt concrete layer 20 having enhanced bitumen content at the bottom of the structural section, a membrane-like barrier to water conductivity is created to limit harmful seepage into the subgrade.

It is apparent that a stated purpose of Miller is to provide a barrier to water conductivity into the subgrade, to provide lateral transport of infiltrated surface waters out of the pavement, as well as to limit harmful seepage into the subgrade. As such, even assuming (without admitting) that a person skilled in the art would be motivated to modify Miller in view of the Examiner's assertion to suit specific design loads, he would not make the modification in such a way as to provide a water-permeable structure, because such a modification would defeat the stated purpose of Miller. Therefore, a person skilled in the art would not modify Miller in view of the Examiner's assertion to provide a water-permeable structure as claimed.

As such, at least one feature of claims 1 and 15 is not taught by Miller or the Examiner's assertion, without admitting the correctness of the Examiner's assertion. Therefore, the Examiner is requested to withdraw his rejection of claim 1, and claims 3-14 depending therefrom; and claim 15, and claims 16-21 depending therefrom.

Miscellaneous Amendments

By the present amendment, claim 1 has been amended to recite a layer of "at least one of sand and ballast" on the substratum side. This is believed to be a broadening amendment. This amendment is believed to be supported by the application as originally filed, in particular paragraph [0006] of the application as published.

By the present amendment, claim 5 has been amended to recite a voidage of "at least 45%". This amendment is believed to be supported by the application as originally filed, in particular paragraph [0026] of the application as published.

In view of the above remarks, the Applicant respectfully submits that all of the currently pending claims are allowable and that the entire application is in condition for allowance.

Should the Examiner believe that anything further is desirable to place the application in a better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

At the time of filing of the present response, the Office was authorized to charge the fees believed to be necessary to a credit card. In case of any under- or over-payment or should any additional fee be otherwise necessary, the Office is hereby authorized to credit or debit (as the case may be) Deposit Account number 502977.

Respectfully submitted,

/Jonathan D. Cutler, 40,576/

Jonathan D. Cutler, Reg. No. 40,576
OSLER, HOSKIN & HARCOURT LLP
Attorneys for the Applicant

OSLER, HOSKIN & HARCOURT LLP
1000 de la Gauchetière St. West
Suite 2100
Montréal, Québec H3B 4W5
Canada

Tel. (514) 904-8100

Fax. (514) 904-8101